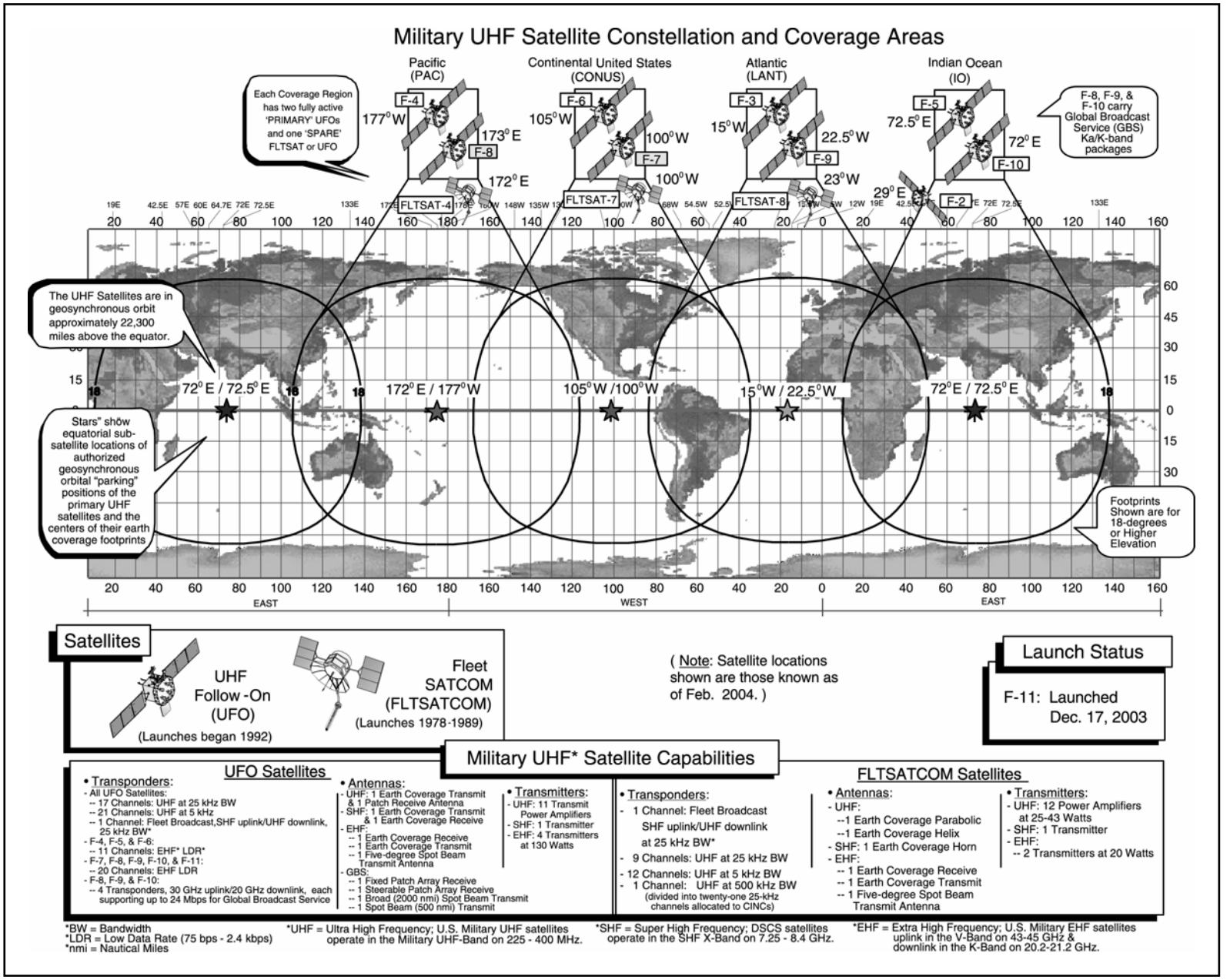
Military UHF Satellite Constellation and Coverage Areas
Pacific (PAC)
Continental United States (CONUS)
Atlantic (LANT)
Indian Ocean (IO)
Each Coverage Region has two fully active 'PRIMARY' UFOs and one 'SPARE' FLTSAT or UFO
F-8, F-9, & F-10 carry Global Broadcast Service (GBS) Ka/K-band packages
F-4
F-8
F-6
F-7
F-3
F-9
F-5
F-10
F-2
177° W
173° E
172° E
105° W
100° W
100° W
15° W
22.5° W
23° W
72.5° E
72° E
29° E
FLTSAT-4
FLTSAT-7
FLTSAT-8
The UHF Satellites are in geosynchronous orbit approximately 22,300 miles above the equator.
Stars" show equatorial sub-satellite locations of authorized geosynchronous orbital "parking" positions of the primary UHF satellites and the centers of their earth coverage footprints
72° E / 72.5° E
172° E / 177° W
105° W /100° W
15° W / 22.5° W
72° E / 72.5° E
Footprints Shown are for 18-degrees or Higher Elevation
EAST
WEST
EAST
Satellites
UHF Follow-On (UFO)
(Launches began 1992)
Fleet SATCOM (FLTSATCOM)
(Launches 1978-1989)
(Note: Satellite locations shown are those known as of Feb. 2004.)
Launch Status
F-11: Launched Dec. 17, 2003
Military UHF* Satellite Capabilities
UFO Satellites
• Transponders:
- All UFO Satellites:
-- 17 Channels: UHF at 25 kHz BW
-- 21 Channels: UHF at 5 kHz
-- 1 Channel: Fleet Broadcast,SHF uplink/UHF downlink, 25 kHz BW*
- F-4, F-5, & F-6:
-- 11 Channels: EHF* LDR*
- F-7, F-8, F-9, F-10, & F-11:
-- 20 Channels: EHF LDR
- F-8, F-9, & F-10:
-- 4 Transponders, 30 GHz uplink/20 GHz downlink, each supporting up to 24 Mbps for Global Broadcast Service
• Antennas:
- UHF: 1 Earth Coverage Transmit & 1 Patch Receive Antenna
- SHF: 1 Earth Coverage Transmit & 1 Earth Coverage Receive
- EHF:
-- 1 Earth Coverage Receive
-- 1 Earth Coverage Transmit
-- 1 Five-degree Spot Beam Transmit Antenna
- GBS:
-- 1 Fixed Patch Array Receive
-- 1 Steerable Patch Array Receive
-- 1 Broad (2000 nmi) Spot Beam Transmit
-- 1 Spot Beam (500 nmi) Transmit
• Transmitters:
- UHF: 11 Transmit Power Amplifiers
- SHF: 1 Transmitter
- EHF: 4 Transmitters at 130 Watts
FLTSATCOM Satellites
• Transponders:
- 1 Channel: Fleet Broadcast SHF uplink/UHF downlink at 25 kHz BW*
- 9 Channels: UHF at 25 kHz BW
- 12 Channels: UHF at 5 kHz BW
- 1 Channel: UHF at 500 kHz BW (divided into twenty-one 25-kHz channels allocated to CINCs)
• Antennas:
- UHF:
--1 Earth Coverage Parabolic
--1 Earth Coverage Helix
- SHF: 1 Earth Coverage Horn
- EHF:
-- 1 Earth Coverage Receive
-- 1 Earth Coverage Transmit
-- 1 Five-degree Spot Beam Transmit Antenna
• Transmitters:
- UHF: 12 Power Amplifiers at 25-43 Watts
- SHF: 1 Transmitter
- EHF:
-- 2 Transmitters at 20 Watts
*BW = Bandwidth
*LDR = Low Data Rate (75 bps - 2.4 kbps)
*nmi = Nautical Miles
*UHF = Ultra High Frequency; U.S. Military UHF satellites operate in the Military UHF-Band on 225 - 400 MHz.
*SHF = Super High Frequency; DSCS satellites operate in the SHF X-Band on 7.25 - 8.4 GHz.
*EHF = Extra High Frequency; U.S. Military EHF satellites uplink in the V-Band on 43-45 GHz & downlink in the K-Band on 20.2-21.2 GHz.

Figure I-6. Military UHF Satellite Constellation and Coverage Areas